

IN THE CLAIMS

--1. (CURRENTLY AMENDED) A centrifugal separation system comprising:

fluid delivery means powered by a motor for providing  
5 a cylindrical vortex fluid flow;  
a separation chamber for containing said fluid flow;  
and  
a collector for collecting matter;  
wherein said fluid flow centrifugally ejects said  
10 matter therefrom into said separation chamber.

2. (CANCELLED)

3. (PREVIOUSLY PRESENTED) A centrifugal separation system  
15 according to claim 1 wherein said fluid delivery means is  
powered by an electrical motor.

4. (PREVIOUSLY PRESENTED) A centrifugal separation system  
according to claim 1 wherein said fluid delivery means is  
20 powered by a combustion motor.

5. (CURRENTLY AMENDED) A centrifugal separation system according to claim 1 wherein said ~~fluid delivery means is powered by a motor that~~ is powered by compressed gas.
- 5 6. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 1 wherein said fluid delivery means is powered by a motor that is powered by a flowing fluid.
7. (ORIGINAL) A centrifugal separation system according to  
10 claim 1 wherein said separation chamber is cylindrical.
8. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises an  
impeller assembly.
- 15 9. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises a centrifugal pump.
- 20 10. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 1 wherein said fluid delivery means comprises at least one propeller.

11. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 1, wherein said collector and said separation chamber are configured such that a pressure is developed in said collector that is greater than the  
5 pressure in said separation chamber.

12. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 1, wherein said matter is selected from the group consisting of dust, nails, screws, nuts, dirt,  
10 and sand.

13. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 1 further comprising an inner tube and an outer tube, said inner tube and said outer tube being  
15 coaxial and coupled to said separation chamber, wherein the gap between said inner tube and said outer tube forms an annular duct.

14. (PREVIOUSLY PRESENTED) A centrifugal separation system comprising:

fluid delivery means for providing a fluid flow;

a separation chamber for separating matter from said  
5 fluid flow;

a collector for collecting said separated matter;

an inner tube and an outer tube, said inner tube and  
outer tube forming an annular duct; and

flow straightening vanes provided within said annular  
10 duct to straighten said fluid flow.

15. (CURRENTLY AMENDED) A centrifugal separation system comprising:

fluid delivery means ~~to~~ for providing a fluid flow;

15 a separation chamber for separating matter from said  
fluid flow;

a collector for collecting said separated matter;

an inner tube and an outer tube, said inner tube and  
said outer tube forming an annular duct, said annular duct  
20 ending in a toroidal vortex nozzle.

16. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said collector is removable for emptying the contents of said collector.

5 17. (ORIGINAL) A centrifugal separation system according to claim 1 wherein said collector further comprises a door for emptying the contents of said collector.

18. (ORIGINAL) A centrifugal separation system according to  
10 claim 1 wherein said collector further comprises a removable stopper for emptying said collector.

19. (PREVIOUSLY PRESENTED) A centrifugal separation system comprising:

fluid delivery means for providing a fluid flow;

a separation chamber for separating from said fluid  
5 flow;

a collector for collecting said matter;

an opening in the wall of said separation chamber,  
said opening leading into said collector;

an outer tube coupled to said separation chamber; and

10 an inner tube located inside said outer tube, said  
inner tube and said outer tube being coaxial, wherein the  
gap between said inner tube and said outer tube forms an  
annular duct.

15 20. (PREVIOUSLY PRESENTED) A centrifugal separation system  
according to claim 19 wherein said fluid delivery means is  
powered by a motor.

21. (PREVIOUSLY PRESENTED) A centrifugal separation system  
20 according to claim 19 wherein said fluid delivery means is  
powered by an electrical motor.

22. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 19 wherein said fluid delivery means is powered by a combustion motor.
- 5 23. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 19 wherein said fluid delivery means is powered by a motor that is powered by a compressed gas.
24. (PREVIOUSLY PRESENTED) A centrifugal separation system  
10 according to claim 19 wherein said fluid delivery means is powered by a motor that is powered by a flowing fluid.
25. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 19 wherein said separation chamber is  
15 cylindrical.
26. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said fluid delivery means comprises an  
20 impeller assembly.
27. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said fluid delivery means comprises a centrifugal pump.

28. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 19, wherein said fluid delivery means comprises at least one propellers.

5 29. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 19, wherein said collector and said separation chamber are configured such that a pressure is developed in said collector that is greater than the pressure in said separation chamber.

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30. (PREVIOUSLY PRESENTED) A centrifugal separation system according to claim 19, wherein said matter is selected from the group consisting of dust, nails, screws, nuts, dirt, and sand.

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31. (ORIGINAL) A centrifugal separation system according to claim 19 further comprising:

flow straightening vanes provided within said annular duct to straighten said fluid flow.

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32. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said inner and outer tubes end in a toroidal vortex nozzle.



33. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said collector is removable for emptying the contents of said collector.

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34. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said collector further comprises a door for emptying the contents of said collector.

10 35. (ORIGINAL) A centrifugal separation system according to claim 19 wherein said collector further comprises a removable stopper for emptying said collector.

15 36. (CURRENTLY AMENDED) A method of centrifugally separating matter from a fluid comprising the steps of:  
utilizing a motor to provide~~ing~~ a cylindrical vortex fluid flow within a separation chamber; and  
centrifugally ejecting said matter into a collector.

20 37. (PREVIOUSLY PRESENTED) A method according to claim 36 wherein said fluid flow is delivered to said separation chamber via an inner tube coupled thereto.

38. (PREVIOUSLY PRESENTED) A method according to claim 36 wherein said fluid flow exits said separation chamber via an annular duct created between an inner tube and an outer tube, wherein said inner tube delivers said fluid flow to  
5 said separation chamber, and wherein said inner tube and said outer tube are coaxial.

39. (PREVIOUSLY PRESENTED) A method according to claim 36 further comprising the step of creating a higher pressure  
10 in said collector than in said separation chamber such that said cylindrical vortex fluid flow is maintained without impeding said matter from carrying into said collector.

40. (PREVIOUSLY PRESENTED) A method according to claim 38,  
15 wherein said annular duct straightens said fluid flow.

41. (PREVIOUSLY PRESENTED) A method according to claim 38, wherein a toroidal vortex nozzle is located at the distal end of said inner tube and said outer tube.

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42. (CANCELLED)

43. (CANCELLED)

44. (CANCELLED)

45. (CURRENTLY AMENDED) A method according to claim 36  
wherein an impeller coupled to said motor provides said  
5 cylindrical vortex fluid flow.

46. (CURRENTLY AMENDED) A method according to claim 36  
wherein at least one propeller coupled to said motor  
provides said cylindrical vortex fluid flow.

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47. (CURRENTLY AMENDED) A method according to claim 36  
wherein a said motor is coupled to a centrifugal pump which  
provides said cylindrical vortex fluid flow.--